

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No.: UCF-306RCE Application Serial No.: 10/082,658

Filed: 10/19/2001

First Named Inventor: Martin Richardson

Examiner: Thomas, Courtney D.

Group: 2882

For: EUV, XUV, AND X-RAY WAVELENGTH SOURCES CREATED FROM LASER PLASMA PRODUCED FROM LIQUID METAL SOLUTIONS, AND NANO-SIZE PARTICLES IN SOLUTIONS

#### **INFORMATION DISCLOSURE STATEMENT**

Honorable Commissioner of Patents and Trademarks Washington DC 20231

Sir:

Pursuant to 37 CFR §§ 1.97 and 1.98, record is being made below in a form PTO-1449 of documents which the Patent Office may wish to consider in connection with examination of the above-identified patent application. It is respectfully requested that the cited documents be carefully considered by the Examiner and made of record in this case. As provided in § 1.97(g), no representation is made or intended that a thorough art search was made. As provided in 37 C.F.R. § 1.97(h), this Supplemental Information Disclosure Statement does not constitute an admission of any kind, and specifically is not an admission that the documents listed on the attached PCT-1449 are, or are considered to be, material to the patentability of the above-identified patent application, as defined in 37 C.F.R. § 1.56(b).

Copies of the cited references were previously submitted to the USPTO in the parent application No.: 10/082,658 filed: 10/19/2001 and placed in the file. Applicants claim priority to said application under 35 U. S. C. §120. Accordingly, copies of those documents are not provided with this Statement pursuant to 37 CFR § 1.98(d).

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Atty. Dkt. No.: UCF-306RCE

It is respectfully requested that the cited documents be carefully considered by the Examiner and made of record in the case.

Respectfully submitted,

Brian S. Steinberger
Law Offices of Brian S. Steinberger
Registered Patent Attorneys
PTO Registration No. 36,423
101 Brevard Avenue
Cocoa, Florida

(321) 633-5080/(321) 633-9322 Fax

Customer No.: 23717

Date: 10/2/03





### US DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

APPLICANT: MARTIN RICHARDSON

EUV, XUV, AND X-RAY WAVELENGTH SOURCES CREATED FROM LASER PLASMA FOR:

PRODUCED FROM LIQUID METAL SOLUTIONS, AND NANO-SIZE PARTICLES IN SOLUTIONS

# LIST OF ART CITED BY APPLICANT

### U.S. PATENT DOCUMENTS

. 0.5.17(12.17)								
EXAMINER	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE		
AA	4.024.400	05/17/77	Blytas et al.	250	432	05/13/76		
AB	4.328.464	05/04/82	Pivirotto	330	4.3	02/07.80		
AC	4.700,371	10/13/87	Forsyth et al.	378	34	11/08/84		
AD	4,723,262	02/02/88	Noda et al.	378	119	12/26/85		
ΑE	4.866,517	09/12/89	Mochizuke et al.	.378	119	09/10/87		
AF	4.953,191	08/28/90	Smither et al.	378	143	07/24/89		
AG	5.052.034	09/24/91	Schuster	378	121	10/29:90		
AH	5.126,755	06/30/92	Sharpe et al.	346	75	03/26/91		
AI	5.142,297	08/25/92	Eijkman et al.	346	1.1	03/26/90		
ΑJ	5.148,462	09/15/92	Spitsyn et al.	378	143	04/08/91		
AK	5,151,928	09/29/92	Hirose	378	119	08/20/91		
AL	5.243,638	09/07/93	Wang et al.	378	119	03/10/92		
AM	5,257,303	10/26/93	Das Gupta	378	85	08/03:92		
AN	5,317,574	05/31/94	Wang	372	5	12/31/92		
AO	5,459,771	10/17/95	Richardson et al.	378	119	04/01/94		
AP	5,577,091	11/19/96	Richardson et al.	378	119	01/13/95		
AQ	5.577.092	11/19/96	Kublak et al.	378	119	11/19/96		
AR	5,991,360	11/23/99	Matsui et al.	378	119	02/03/98		
AS	6,002,744	12/14/99	Hertz et al.	378	119	10/21/98		
AT	6.069,937	05/30/00	Oshino	378	119	7/17.98		
AU	6.185.277	02/06/01	Harding	378	143	05/07/99		
AV	6.180,952	01/30/01	Haas, et al.	250	492.2	04/03/98		
AW	6,244,717	06/12/01	Dinger	359	859	05/28/99		



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LIST OF ART CITED BY APPLICANT

	FOREIGN PATENT DOCUMENTS						
FA	JA57/41167	1982					
FB	JA0267895	11/90	Iwamatsu				
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			· ·				

- OA T.P. Donaldson, SOFT X-RAY SPECTROSCOPY OF LASER-PRODUCED PLASMAS WITH A CONVEX MICA CRYSTAL SPECTROMETER, X-Ray Astronomy Group, Vol. 9, P. 1645-1655, 1 March 1976
- OB T. Mochizuki, SOFT X-RAY OPTICS AND TECHNOLOGY, Proceedings Of SPIE-The International Society For Optical Engineering, Vol. 733, P. 23-27, December 1986
- OC Martin Richardson, LASER PLASMA SOURCE FOR X-RAY PROJECTION LITHOGRAPHY, Laser-Induced Damage In Optical Materials, Vol. 1848, P. 483-500, 1992
- OD W.T. Silfvast, LASER-PRODUCED PLASMAS FOR X-RAY PROJECTION LITHOGRAPHY, American Vacuum Society, P. 3126-3133, 4 August 1992
- OE F. Jin, MASS LIMITED PLASMA CYROGENIC TARGET FOR 13NM POINT X-RAY SOURCES FOR LITHOGRAPHY, Application of Laser Plasma Radiation, Vol. 2015, P. 1-9, August 1993

SUPPLEMENTAL FORM PTO-1449

RADIAN Attorney Docket No.: UCF-306RCE

Application Serial No.: 10/082,658 Filed: 10/19/2001

First Named Inventor: Martin Richardson Examiner: Thomas, Courtney D.

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U.S. PATENT DOCUMENTS										
EXAMINER	DOCUMENT NO.	DATE	NAME	CLASS SUB	CLASS					
AA	4,182,574	01/1980	QUILLFELDT	356/318						
AB	6,285,743	09/2001	KANDAKA							
AC	6,304,630	10/2001	BISSCHOPS	378/119						
AD	6,493,423	12/2002	BISSCHOPS	378/119						
		PUBLICATIO	N DOCUMENTS		_					
PA	US2003/0108155A1	06/2001	ELKINS	378/119						
PB	US2002/0015473AI	02/2002	HERTZ	378/143						
PC	US2002/0044629A1	02/2002	HERTZ	378/119						
PD	US2002/0090054A1	07/2002	SOGARD	378/119						
	F	OREIGN PATEN	NT DOCUMENTS							

## OTHER ART (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)

OA HERTZ, H. M., et al., Debris-free Soft X-ray Generation Using a Liquid Droplet Laser-Plasma Target, Department of Physics, Lund Institute of Technology, Sweden, SPIE Vol. 2523, pp 88-93

OB RYMELL, L., et al., Droplet Target for Low-Debris Laser-Plasma Soft X-ray Generation, No. ½, pp. 105 – 110, Optics Communications, November 1993